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DICKSTEIN SHAPIRO LLP 1633 Broadway NEW YORK, NY 10019			EXAMINER LEE, ANDREW CHUNG CHEUNG	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/526,958	Applicant(s) NAKATA ET AL.	
	Examiner Andrew C. Lee	Art Unit 2476	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-13,15-26 and 28-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-13,15-26 and 28-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/17/2009, 3/04/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Group I (claims 1, 3-13, 15-26 and 28-39) has been elected for initial examination.

Claims 1, 3-13, 15-26 and 28-39 are hence entered and for examination.

Claims 1, 3-13, 15-26 and 28-39 are pending.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 07/17/2009, 03/04/2005 as filed, and the submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claims 6, 15, 19 are objected to because of the following informalities:

Regarding claim 6, the claim subject matter “for path selection or selection priority update” should be amended as “for said path selection or said path selection priority update”. Appropriate correction is required.

Regarding claim 15, the clause “capable of” is not a positive recitation. Clarification and appropriate correction are required.

Regarding claim 19, the claim subject matter “for path selection or selection priority update” should be amended as “for said path selection or said path selection priority update”. Appropriate correction is required.

Regarding claim 32, the claim subject matter “for path selection or selection priority update” should be amended as “for said path selection or said path selection priority update”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claims 1, 6, 9, 13, 15, 19, 20, 26, 28, 32, 33, 39 the claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors (for instances, fused sentences and/or comma splices) Clarification and correction are required.

Claims 1, 7, 15, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, the claim subject matter “a time from which said path status information is effective”, and “the time from which said path status information is effective” is very ambiguous and indefinite. It is not clear what and which “is effective” in the timeline refers to. Without further elaborating and clarifying the claim subject matters, one of ordinary skill in the art is impossible to understand what the applicant is going to claim. Hence clarification and appropriate action are required. Claims 7, and 15 have the same deficiencies as in claim 1 as addressed above.

Claim 7 recites the limitation “the latest path status information” in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation “said transmission source address” in line 9; “said selected communications interfaces” in lines 10 – 11; “said selected communications interfaces” in line 15. There is insufficient antecedent basis for this limitation in the claim.

Claim 26 recites the limitation “said transmission source address” in lines 8 – 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 39 recites the limitation “said transmission source address” in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claims 28 – 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claim 28, according to current claim

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subject matter structures in the claim, it is not clear where the preamble starts and finishes, and where the main body of claim begins and ends. The claims 29 to 39 are also rejected under 35 U.S.C. 112, second paragraph, since the claims are dependent upon the independent claim 28. Clarification and appropriate correction are required.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 28 – 39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 28 – 39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Regarding claim 28, the claim is merely a program claim, per se. Since computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program’s functionality to be realized. Besides, the claimed subject matter “a program” is not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

Additionally, claims 29 – 39 are rejected under 35 U.S.C. 101, since the claims are dependent upon the independent claim 28.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 3, 16, 29, 4, 17, 30, 5, 18, 31, 6, 19, 32, 7, 20, 33, 8, 21, 34, 9, 10, 13, 15, 22, 23, 26, 28, 35, 36, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bare (US 6865160 B1) in view of Hatakeyama (US 6542468 B1).

Regarding claim 1, Bare discloses a load distributing method (*“load balancing”*; *Abstract, Fig. 1, col. 3, lines 47 – 67, col. 9, lines 45 – 56*) comprising the step of: path selection or path selection priority update for a pair of nodes, between which plural communication paths can be selected (*col. 10, lines 6 – 14*), upon every packet input to a transmission node, based on path status information on a selectable path (*col. 12, lines 30 – 50*), except based on identification information on a time from which said path status information is effective or on a transmitted packet, and based on a transmission history after the time from which said path status information is effective or a transmission history after transmission of the packet specified with transmitted packet identification information.

Bare does not disclose explicitly based on identification information on a time from which said path status information is effective or on a transmitted packet, and based on a transmission history after the time from which said path status information is effective or a transmission history after transmission of the packet specified with transmitted packet identification information.

Hatakeyama in the same field of endeavor teaches based on identification information on a time from which said path status information is effective or on a transmitted packet (*Abstract, Fig. 6, col. 4, lines 52 – 60, col. 5, lines 38 – 66*), and based on a transmission history after the time from which said path status information is effective or a transmission history after transmission of the packet specified with transmitted packet identification information (*Fig. 6, col. 15, lines 35 – 65*). At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Bare to include the features of based on identification information on a time from which said path status information is effective or on a transmitted packet, and based on a transmission history after the time from which said path status information is effective or a transmission history after transmission of the packet specified with transmitted packet identification information as taught by Hatakeyama. One of ordinary skill in the art would be motivated to do so for providing an apparatus which estimates and selects an optimum path used to transmit data and its response according to a response times per unit data length of transmission data or of response data when one node transmits service request data to another node among the plural nodes distributed via the network and the response to the transmitted data is

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returned from the transmission destination node to the transmission source *node* (as suggested by Hatakeyama, see col. 1, lines 11 – 18).

Regarding claims 3, 16, 29, Bare discloses the load distributing method, node and node control program claimed wherein said path status information includes a delay of a path (*“latency”*; col. 10, lines 6 – 14).

Regarding claims 4, 17, 30, Bare discloses the load distributing method, node and node control program claimed wherein said path status information includes a transmission rate of a path (*“...defining the maximum rate of ...”*; col. 2, lines 47 - 55).

Regarding claims 5, 18, 31, Bare discloses the load distributing method, node and node control program claimed wherein said path status information includes a load of a path (*“....loads fairly across all the load-balancing switch paths”*; col. 9, lines 45 – 56).

Regarding claims 6, 19, 32, Bare discloses the load distributing method, node and node control program claimed correcting a transmission cost calculation result regarding a packet transmitted before updating path status information of each path, when the path status information is updated for path selection or selection priority update (col. 10, lines 6 – 14; col. 22, lines 36 – 44).

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Regarding claims 7, 20, 33, Bare disclose the load distributing method, node and node control program claimed discarding a history prior to a first packet transmitted on or after a time from which the latest path status information is effective, when a transmission cost calculation result of each path is corrected (*col. 13, lines 15 – 22, col. 22, lines 36 – 44, col. 24, lines 28 – 54*).

Regarding claims 8, 21, 34, Bare discloses the load distributing method, node and node control program claimed further selecting as a packet transmission path a path having an earliest estimation value of a reception completion time at a reception node (*col. 34, lines 7 – 20*).

Regarding claim 9, Bare discloses the load distributing method claimed comprising the step of selecting as a packet transmission path a path having a largest estimation value of a data amount, which can be completely received by a specific time at a reception node (*col. 13, lines 5 – 8*).

Regarding claim 10, Bare discloses the load distributing method claimed comprising the step of interrupting data transmission according to an estimated current path status in each path (*col. 20, lines 2 – 13*).

Regarding claim 13, Bare discloses the load distributing method claimed further comprising the steps of: selecting a communications interface corresponding to a destination address of a reception packet from a table which associates an address of a communications interface with a destination address reachable using said communications interface (*col. 1, lines 66 – 67, col. 2, lines 1 – 12, col. 13, lines 12 – 14*); selecting a communications interface corresponding to said transmission source address or a communications interface from among said selected communications interfaces when said reception packet has information specifying a transmission source address or a communications interface (*col. 13, lines 22 – 27, col. 14, lines 55 – 65*); selecting a given communications interface from among said selected communications interfaces when said reception packet does not have information on a transmission source address or a communications interface (*“If the switch ID is not in the tables.....”*; *col. 35, lines 39 – 61*); and sending said reception packet to a selected communications interface (*col. 35, lines 39 – 61, col. 37, lines 44 – 50*).

Regarding claim 15, Bare discloses a node capable of selecting plural packet transmission paths (*“load balancing”*; *Abstract, Fig. 1, col. 3, lines 47 – 67, col. 9, lines 45 – 56*), comprising: monitor means for monitoring a selectable path status of each path every packet input at a transmission node and monitoring path status information on the path status (*col. 10, lines 6 – 14, col. 12, lines 35 – 59*), and memory means for storing said path status information and a packet transmission history available after said path status information is validated (*Fig. 32, col. 11, lines 41 – 64*), except a time

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from which the path status information is effective or packet identification information; scheduling means for estimating an arrival prediction time of a packet in each path based on said path status information and based on a packet transmission history after said path status information is validated and updating path selection or selection priority based on said estimated arrival prediction time.

Bare does not disclose explicitly a time from which the path status information is effective or packet identification information; scheduling means for estimating an arrival prediction time of a packet in each path based on said path status information and based on a packet transmission history after said path status information is validated and updating path selection or selection priority based on said estimated arrival prediction time.

Hatakeyama in the same field of endeavor teaches a time from which the path status information is effective or packet identification information (*Abstract, Fig. 6, col. 4, lines 52 – 60, col. 5, lines 38 – 66*); scheduling means for estimating an arrival prediction time of a packet in each path based on said path status information and based on a packet transmission history after said path status information is validated and updating path selection or selection priority based on said estimated arrival prediction time (*Fig. 6, col. 15, lines 35 – 65*). At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Bare to include the features of explicitly a time from which the path status information is effective or packet identification information; scheduling means for estimating an arrival prediction time of a packet in each path based on said path status information and

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based on a packet transmission history after said path status information is validated and updating path selection or selection priority based on said estimated arrival prediction time as taught by Hatakeyama. One of ordinary skill in the art would be motivated to do so for providing an apparatus which estimates and selects an optimum path used to transmit data and its response according to a response times per unit data length of transmission data or of response data when one node transmits service request data to another node among the plural nodes distributed via the network and the response to the transmitted data is returned from the transmission destination node to the transmission source *node (as suggested by Hatakeyama, see col. 1, lines 11 – 18).*

Regarding claim 22, Bare discloses the node claimed wherein said scheduling means selects as a packet transmission path a path having a largest estimation value of a data amount which can be completely received by a specific time at a reception node (*col. 12, lines 51 – 63, col. 13, lines 5 – 8*).

Regarding claim 23, Bare discloses the node claimed wherein said scheduling means interrupts data transmission according to an estimated current path status for each path (*col. 12, lines 51 – 63, col. 20, lines 2 – 13*).

Regarding claim 26, Bare discloses the node claimed, further comprising: a table in which an address of a communications interface is associated with a destination address reachable using said communications interface (*col. 1, lines 66 – 67, col. 2, lines 1 – 12, col. 13, lines 12 – 14*); and routing means for selecting a communications interface corresponding to a destination address of a packet to be transmitted, from said table, selecting a communications interface corresponding to said transmission source address or a communication interface from said selected communications interface when said transmission packet has a information specifying a transmission source address or a communications interface (*col. 12, lines 51 – 64; col. 13, lines 22 – 27, col. 14, lines 55 – 65*),, and sending said transmission packet to a selected communications interface (*col. 35, lines 39 – 61, col. 37, lines 44 – 50*).

Regarding claim 28, Bare discloses a node control program (*“the software”*; *col. 79, lines 50 – 65*), which is applicable to a node that can select plural packet transmission paths (*“load balancing”*; *Abstract, Fig. 1, col. 3, lines 47 – 67, col. 9, lines 45 – 56*), said node control program controlling a node as: monitoring means for monitoring a selectable path status of each path for each packet input to a transmission node and monitoring path status information on said path status (*col. 10, lines 6 – 14, col. 12, lines 35 – 59*) and except identification information on time or packet validating said path status information; and scheduling means for estimating a packet arrival prediction time in each path based on said path status information and based on a transmission history of a packet after said path status information is validated and

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updating path selection or selection priority based on said estimated arrival prediction time. Bare does not disclose explicitly identification information on time or packet validating said path status information; and scheduling means for estimating a packet arrival prediction time in each path based on said path status information and based on a transmission history of a packet after said path status information is validated and updating path selection or selection priority based on said estimated arrival prediction time.

Hatakeyama in the same field of endeavor teaches identification information on time or packet validating said path status information (*Abstract, Fig. 6, col. 4, lines 52 – 60, col. 5, lines 38 – 66*); scheduling means for estimating a packet arrival prediction time in each path based on said path status information and based on a transmission history of a packet after said path status information is validated and updating path selection or selection priority based on said estimated arrival prediction time (*Fig. 6, col. 15, lines 35 – 65*). At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Bare to include the features of identification information on time or packet validating said path status information; and scheduling means for estimating a packet arrival prediction time in each path based on said path status information and based on a transmission history of a packet after said path status information is validated and updating path selection or selection priority based on said estimated arrival prediction time as taught by Hatakeyama. One of ordinary skill in the art would be motivated to do so for providing an apparatus which estimates and selects an optimum path used to transmit data and its response

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according to a response times per unit data length of transmission data or of response data when one node transmits service request data to another node among the plural nodes distributed via the network and the response to the transmitted data is returned from the transmission destination node to the transmission source *node* (as suggested by Hatakeyama, see col. 1, lines 11 – 18).

Regarding claim 35, Bare discloses the node control program claimed, further controlling said scheduling means so as to select as a packet transmission path a path having a largest estimation value of a data amount which can be completely received by a specific time at a reception node (col. 12, lines 51 – 63, col. 13, lines 5 – 8)..

Regarding claim 36, Bare discloses the node control program claimed, further controlling said scheduling means so as to interrupt data transmission according to an estimated current path status for each path (col. 12, lines 51 – 63, col. 20, lines 2 – 13).

Regarding claim 39, Bare discloses the node control program claimed further operating as routing means that: selects a communications interface corresponding to a destination address of a packet to be transmitted, from a table in which an address of a communications interface is associated with a destination address reachable using said communications interface (col. 1, lines 66 – 67, col. 2, lines 1 – 12, col. 13, lines 12 – 14), selects a communications interface corresponding to said transmission source address or a communications interface, from said selected communications interface

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when said transmission packet has information specifying a transmission source address or a communications interface (*col. 13, lines 22 – 27, col. 14, lines 55 – 65*), and transmits said packet to be transmitted, to said selected communications interface (*col. 35, lines 39 – 61, col. 37, lines 44 – 50*).

11. Claims 11, 24, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bare (US 6865160 B1) and Hatakeyama (US 6542468 B1) as applied to claims 1, 10, 15, 23, 28, 36 above, and further in view of Gurleg et al. (US 7539142 B1).

Regarding claims 11, 24, 37, the combined system of Bare and Hatakeyama does not disclose explicitly wherein a condition for interruption of said data transmission is that an estimated reception completion time is equal to or greater than a specific value.

Gurleg et al. in the same field of endeavor teach wherein a condition for interruption of said data transmission is that an estimated reception completion time is equal to or greater than a specific value (*Fig. 1, col. 8, lines 41 – 57*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Bare and Hatakeyama to include the features wherein a condition for interruption of said data transmission is that an estimated reception completion time is equal to or greater than a specific value as taught by Gurleg et al. in order to provide a telecommunication systems and subsystems thereof, and is particularly directed to an efficient storage capacity, differentially clocked buffer-based digital communication mechanism for interfacing a first time domain over which a

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relatively high clock rate sequential data stream, such as a 100 MHz data stream supplied by an Ethernet-based local area network (LAN) is transported, with a relatively low time domain having a digital communication link, operating at a relatively lower clock rate, such as a T3 communication link operating at 44.736 MHz, and for interfacing a T3 rate data stream received from the T3 link with the higher data rate Ethernet-based local area network (as suggested by Gurleg, see col. 1, lines 6 – 18).

12. Claims 12, 25, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bare (US 6865160 B1) and Hatakeyama (US 6542468 B1) as applied to claims 1, 15, 28, above, and further in view of Greenberg et al. (5878026).

Regarding claims 12, 25, 38, the combined system of Bare and Hatakeyama does not disclose explicitly wherein path selection or transmission interruption is determined according to a policy different for each attribute of transmission data.

Greenberg et al. in the same field of endeavor teach wherein path selection or transmission interruption is determined according to a policy different for each attribute of transmission data (*Fig. 9, col. 3, lines 23 – 36, lines 48 – 65; col. 6, lines 35 – 46*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Bare and Hatakeyama to include the features of wherein path selection or transmission interruption is determined according to a policy different for each attribute of transmission data as taught by Greenberg et al. in order to provide communication networks, and more specifically to the allocation of resources

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between book-ahead and instantaneous-request calls in an integrated-services network
(as suggested by Greenberg et al., see col. 1, lines 6 – 9).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571)272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C Lee/

Examiner, Art Unit 2476

<1Qy10:12_15_09>

/Ayaz R. Sheikh/

Supervisory Patent Examiner, Art Unit 2476